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conduct electricity of this low intensity; there are some which conduct it and are not decomposed; nor is fluidity essential to decomposition.¹

184. There is but one body yet discovered² which, insulating a voltaic current when solid, and conducting it when fluid., is not decomposed in the latter case (150).

185. There is no strict electrical distinction of conduction which can, as yet, be drawn between bodies supposed to be elementary, and those known to be compounds.

April 15, 1833.

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ON ELECTRO-CHEMICAL DECOMPOSITION. <[[i. NEW CON-
DITIONS OF ELECTRO-CHEMICAL DECOMPOSITION.
^f ii.
INFLUENCE OF WATER IN ELECTRO-CHEMICAL DECOMPO-
SITION. <[[iii. THEORY OF ELECTRO-CHEMICAL DECOM-
POSITION

§ 5. *On Electro-chemical Decomposition*⁴

186. I HAVE in a recent series of these Researches (i) proved (to my own satisfaction, at least) the identity of electricities derived from different sources, and have especially dwelt upon the proofs of the sameness of those obtained by the use of the common electrical machine and the voltaic battery.

187. The great distinction of the electricities obtained from these two sources is the very high tension to which the small quantity obtained by aid of the machine may be raised, and the enormous quantity (107, 112) in which that of comparatively low tension, supplied by the voltaic battery, may be procured; but as their actions, whether magnetical, 'chemical, or of any other nature, are essentially the same (96), it appeared evident that we might reason from the former as to the manner of action of the latter; and it was, to me, a probable consequence, that the use of electricity of such intensity as that afforded by the machine, would, when applied to effect and

¹ See the next part of these *Experimental Researches*.

* It is just possible that this case may, by more delicate experiment., hereafter disappear.

³ Fifth Series, original edition, vol. i. p. 127.

⁴ Refer to the note after paragraph 783.—December 1838.